REMARKS

Claims 1, 17, 19, 23 and 27-36 are pending. Product claims 1, 17, 19, and 23 are allowed. Method claims 27-36 are rejected.

Claims 29-36 are amended. The amendments are fully supported in the specification, and thus introduce no new matter.

Applicants respectfully request reconsideration.

CLAIM OBJECTIONS

Applicants have amended claims 29-36 to overcome the objections and respectfully request the objections be withdrawn. While Applicants agree that claim 27 does not recite Y^1 is $-(CH_2)_3SOT$ nor C1-C10 alkyl, Applicants believe the Examiner erred in stating $-(CH_2)_3SOT$) rather than $-(CH_2)_3SO_3T$), and Applicants disagree that they canceled C1-C10 alkyl. Claim 27 is thus amended to include C1-C10 alkyl for Y^1, supported at least in originally filed claim 1 and so introduces no new matter.

CLAIM REJECTIONS UNDER 35 U.S.C. §112

Claims 27-32 are rejected under 35 U.S.C. §112 ¶1 "because the specification while being enabling for physiological, renal, cardiac function monitoring or determining organ perfusion in vivo, does not reasonably provide enablement for all diagnostic procedures" (Action p. 4). Applicants respectfully disagree.

Enablement requires that the specification communicate the invention to the public in a meaningful way with "such particularity as to enable any person skill in the pertinent art or science to make and use the invention without involving extensive experimentation". MPEP §608.01(g). Applicants' specification meets this requirement, as subsequently analyzed, and thus is enabled.

In Applicants' method, the procedure performed after administering the compound is known by one skilled in the art. The Examiner has acknowledged that "[t]he types of contrast (active) agents required for the different diagnostic techniques/procedures known in the art are well known and predictable to one ordinarily skilled in the art" (Action p. 5).

The specification discloses that organ function other than hepatic, cardiac, and renal are within the claim scope, e.g., p. 6 lines 13-16:

> Thus, there is a need in the art to develop low molecular weight compounds that absorb and/or emit light that can be used for assessing renal, hepatic, cardiac and other organ functions.

(emphasis added).

The specification need not provide direction for ascertaining which diagnostic procedure to use; these would be within the level of skill in the art. "A patent need not teach, and preferably omits, what is well known in the art." *Spectra-Physics, Inc. v. Coherent, Inc.*, 827 F.2d 1524,

1534 (Fed. Cir. 1987). Data as required for an FDA submission is not required for patentability. *In re Brana*, 34 USPQ2d 1436 (Fed. Cir. 1995), MPEP §2107.

The specification meets the requirements for enablement by informing one how to make and how to use the claimed invention.

As one example, Applicants disclose how to dose the compound in the method:

> The dosage of the tracers [the compound of Formula 1] may vary according to the clinical procedure contemplated and generally ranges from 1 picomolar to 10 millimolar (p. 23 lines 14-16)

As another example, Applicants disclose how to administer the compound in the method:

> The tracers may be administered to the patient by any suitable method, including intravenous, intraperitoneal, or subcutaneous injection or infusion, oral administration, transdermal absorption through the skin, or by inhalation (p. 23 15-18).

As another example, Applicants disclose how to detect the compound in the method:

> The detection of the tracers is achieved by optical fluorescence, absorbance, or light scattering methods known in the art (Muller et al. Eds, *Medical Optical Tomograph*, SPIE Volume IS11, 1993, which is expressly incorporated herein by reference) using invasive or non-invasive probes such as endoscopes, catheters, ear clips, hand bands, surface coils, finger probes, and the like (p. 23 lines 19-24).

The incorporated Muller reference discloses additional embodiments, e.g., measurement of tissue parameters, imaging techniques, and functional imaging and monitoring. Muller also discloses additional uses, e.g., in ophthalmology (e.g., Muller at pp. 355-370); in skin (Muller at pp. 234-260), and in mammography (Muller at pp. 425-449 and 473-482).

As another example, Applicants disclose exemplary uses of the data from the method:

> Physiological function is correlated with the clearance profiles and rates of these agents from body fluids (R. B. Dorshow et al., *Non-Invasive Fluorescence Detection of Hepatic and Renal Function*, *Bull. Am. Phys. Soc.* 1997, 42, 681, which is expressly incorporated by reference herein)
>
> The organ functions can be assessed either by the differences in the manner in which the normal and impaired cells remove the tracer from the bloodstream, by measuring the rate or accumulation of these tracers in the organs or tissues, or by obtaining tomographic images of the organs or tissues. Blood pool clearance may be measured non-invasively from convenient surface capillaries such as those found in an ear lobe or a finger, for example, using an ear clip or finger clip sensor, or may be measured invasively using an endovascular catheter. Accumulation of the tracer within the cells of interest can be assessed in a similar fashion. The clearance of the tracer dyes may be determined by selecting excitation wavelengths and filters for the emitted photons. The concentration-time curves may be analyzed in real time by a microprocessor. In order to

> demonstrate feasibility of the inventive compounds to monitor organ function, a non-invasive absorbance or fluorescence detection system to monitor the signal emanating from the vasculature infused with the compounds is used. Indole derivatives, such as those of Formulas 1-6, fluoresce at a wavelength between 350 nm and 1300 nm when excited at the appropriate wavelength as is known to, or readily determined by, one skilled in the art.
>
> (p. 23 line 24 to p. 24 line 21).

In view of these disclosures, Applicants respectfully assert their specification does communicate their invention with such particularity as to enable any person skilled in this art to make and use their invention without involving extensive experimentation.

Further, in view of these discloses, the Examiner's assertion that "[c]learly, the methods are only used to monitor physiological, renal, cardiac function monitoring and determining organ perfusion via fluorescence or absorbance of the dyes of the instant claims" (Action p. 5), is inaccurate. In addition, it impermissibly substitutes the Examiner's opinion, over that of the inventors' specific teachings.

For at least these reasons, Applicants request the rejections of claims 27-32 under this section be withdrawn.

Claims 27-36 are rejected under 35 U.S.C. §112 ¶1 as not described because "therapeutic procedure" is new matter. Applicants respectfully disagree.

Originally filed claims 5 and 6 recite "performing a ... therapeutic procedure".

Further, the specification discloses that "[t]he detection of the tracers is achieved by optical fluorescence, absorbance, or light scattering methods known in the art" (p. 23 lines 19-20). Optical methods known to one of skill in this art include therapeutic methods, e.g., photodynamic therapy (PDT). PDT is, as its name states, a therapeutic method.

For at least these reasons, Applicants request the rejection of 27-36 under this section be withdrawn.

Claims 30-32 are rejected under 35 U.S.C. §112 ¶ 2, "as being incomplete for omitting essential steps...The omitted steps are: the method of administering light of wavelength in the region of 350 nm - 1300 nm." (Action p. 6)

Applicants respectfully note that each of pending claims 30-32 already recites, as part of the method, "us[ing] light of wavelength in the region of 350 nm – 1300 nm, and thus request the Examiner either clarify the rejection so that Applicants' may completely respond, or withdraw the rejection.

CONCLUSION

Applicants believe the application is in complete condition for allowance with no fees due. If fees are deemed necessary, the Office is authorized to charge them to Deposit Account No. 20-0809.

The Examiner is invited to contact Applicants' representative with questions.

Respectfully submitted,
THOMPSON HINE, LLP

/Beverly A. Lyman/

Beverly A. Lyman, Ph.D.
Reg. No. 41,961

Intellectual Property Group
P.O. Box 8801
Dayton OH 45402-8801
513 352 6596
513 241 4771 facsimile
741868